

CLAIMS

I claim:

1. A ladder structure for enhancing corrosion resistance, comprising:

a ladder including a pair of rails and a plurality of rungs extending between and mounted on the rails;

wherein at least one of the rails and at least one of the rungs of the ladder comprise substantially tubular elements each having an interior;

wherein a pair of the substantially tubular elements of the ladder are connected to each other and the interiors of the connected pair of substantially tubular elements are in fluid communication with each other.

2. The ladder structure of claim 1 wherein a first one of the connected pair of substantially tubular elements has a perimeter wall with a hole formed therein, and wherein a second one of the connected pair of substantially tubular elements has an opening located at an opposite end of the second substantially tubular element.

3. The ladder structure of claim 2 wherein the first substantially tubular element is connected to the second substantially tubular element in a manner such that the hole formed in the perimeter wall of the first substantially tubular element is in fluid communication with the opening in the end of the second substantially tubular element.

4. The ladder structure of claim 1 wherein both of the rails and substantially all of the plurality of rungs comprise substantially tubular elements with interiors, and wherein the interiors of substantially all of the rungs are in fluid communication with both of the rails.

5. The ladder structure of claim 1 additionally comprising a support structure mounted on the ladder for enhancing rigidity of the ladder when the ladder is supported at an end in an extended condition.

6. The ladder structure of claim 5 wherein the support structure including at least one substantially tubular element with an interior in fluid communication with at least one of the substantially tubular elements of the ladder.

7. The ladder structure of claim 5 wherein the support structure includes at least one truss assembly.

8. The ladder structure of claim 5 wherein the support structure includes at least one longitudinal member extending substantially parallel to one of the rails of the ladder, and a plurality of cross members extending between the longitudinal member and the said onerail of the ladder, wherein the longitudinal member and substantially all of the plurality of cross members comprise substantially tubular elements with interiors, wherein the interiors of substantially all of the cross members are in fluid communication with the interior of the longitudinal member.

9. The ladder structure of claim 8 wherein each of the cross members has a pair of opposite ends, a first one of the opposite ends being mounted on the longitudinal member and a second one of the opposite ends being mounted on the rail, at least one of the ends of the cross member being in fluid communication with the longitudinal member.

10. The ladder structure of claim 1 wherein at least one of the rungs is mounted to the rails by welding.

11. The ladder structure of claim 1 wherein the ladder includes a plurality of buttresses, each of the buttresses extending between one of the rails and a medial region of one of the rungs.

12. The ladder structure of claim 11 wherein each of the buttresses is tubular.

13. The ladder structure of claim 1 wherein a first one of the connected pair of substantially tubular elements has a perimeter wall with a hole formed therein, and wherein a second one of the connected pair of substantially tubular elements has an opening located at an opposite end of the second substantially tubular element;

wherein the first substantially tubular element is connected to the second substantially tubular element in a manner such that the hole formed in the perimeter wall of the first substantially tubular element is in fluid communication with the opening in the end of the second substantially tubular element;

wherein both of the rails and substantially all of the plurality of rungs comprise substantially tubular elements with interiors, and wherein the interiors of substantially all of the rungs are in fluid communication with both of the rails;

a support structure mounted on the ladder for enhancing rigidity of the ladder when the ladder is supported at an end in an extended condition;

wherein the support structure including at least one substantially tubular element with an interior in fluid communication with at least one of the substantially tubular elements of the ladder;

wherein the support structure includes at least one truss assembly;

wherein the support structure includes at least one longitudinal member extending substantially parallel to one of the rails of the ladder, and a plurality of cross members extending between the longitudinal member and the said one rail of the ladder, wherein the longitudinal member and substantially all of the plurality of cross members comprise substantially tubular elements with interiors, wherein the interiors of substantially all of the cross members are in fluid communication with the interior of the longitudinal member;

wherein each of the cross members has a pair of opposite ends, a first one of the opposite ends being mounted on the longitudinal member and a second one of the opposite ends being mounted on the rail, at least one of the ends of the cross member being in fluid communication with the longitudinal member;

wherein at least one of the rungs is mounted to the rails by welding; and

wherein the ladder includes a plurality of buttresses, each of the buttresses extending between one of the rails and a medial region of one of the rungs, each of the buttresses being substantially tubular.

14. A method for forming a ladder assembly resistant to corrosion, comprising:

providing a plurality of substantially tubular elements, each of the substantially tubular elements including a perimeter wall and opposite ends, at least one of the opposite ends of the substantially tubular elements having an opening;

forming a hole in the perimeter wall of a first one of the substantially tubular elements;

aligning the opening in one of the opposite ends of a second one of the substantially tubular elements with the hole in the perimeter wall of the first one of the substantially tubular elements such that an interior of the first one of the substantially tubular elements is in fluid communication with an interior of the second one of the substantially tubular elements;

connecting the second one of the substantially tubular elements to the first one of the substantially tubular elements in the alignment to form a joint of the ladder; and

dipping the joint of the first and second substantially tubular elements in a corrosion resisting liquid so that the corrosion resisting liquid is capable of moving between the interiors of the substantially tubular elements to coat the interiors of the first and second substantially tubular elements with the corrosion resisting liquid, including submerging the joint of the ladder in the corrosion-resisting liquid.